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XVIII. *Obſervations on the Effects of Light on Vegetation. By Hon.* JAMES WARREN, ESQ. F. A. A.

Milton, January 25th, 1786.

GENTLEMEN,

THE inveſtigation of the economy of plants is a ſubject of univerſal importance to mankind; and has accordingly engaged the attention of the philoſopher, as well as the huſbandman. But, from the intricacy that attends it, it has hitherto diſappointed the reſearches of the firſt, and the obſervations of the laſt, at leaſt in the moſt uſeful and material queſtions; among which I think are, What is the food of plants? In what manner is it received into their veſſels? And how it operates, to produce ſuch benefits to man and other animals? Theſe are yet ſubjects of diſcuſſion and diſpute; and are advanced no farther than the conjectures of thoſe, who hold different ſentiments on different ſyſtems which they have adopted; each of which is far from eſtabliſhing that deciſion, which can lead the practical farmer to a certain and ſucceſsful proceſs in cultivation. We know, in many inſtances, that light has a great influence on the growth of plants; and perhaps, they cannot ſubſiſt without it. But this is a general proviſion of nature; and can receive but little addition from the induſtry of the huſbandman. It ſeems to be rather a *ſine qua non*, than a diſcovery of the *deſiderata* we wiſh for. However, it is difficult, if not impoſſible, to conclude, that an inſtance of the effect of light on vegetation may not, in ſome caſes,

lead

lead to a ſolution of the above queſtions. I therefore, beg leave to communicate an extraordinary inſtance, related to me by a gentleman of undoubted veracity in my neighbourhood. The account is as follows: On going into a cellar, which he uſed for the preſervation of roots in the winter, and kept cloſe and dark, he diſcovered, in the ſouth eaſt corner, a very ſmall hole, which admitted a little light; and that a vine proceeding from a potatoe, accidentally left in the north weſt corner, had purſued a direct courſe to the aperture in the wall; and after running twenty feet on the cellar floor, aſcended the wall, and without any deviation in its whole courſe, went out at the hole. This is the ſtrongeſt inſtance of the effect of light on the growth of plants, that has fallen under my obſervation; and being ſo extraordinary, will, I hope, apologize for this communication, if it produces no other effect, than amuſement to the curious.

I am your obedient,
humble ſervant,
J. WARREN.

To the AMERICAN ACADEMY *of* ARTS *and* SCIENCE.

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XIX. *A Letter concerning Gay Head. From the Reverend* SAMUEL WEST, D. D. F. A. A.

Dartmouth, October 9th, 1786.

SIR,

YOUR Excellency undoubtedly remembers, that I was appointed by the Academy to be a committee, to examine the mineral productions of Gay Head, and to ſubmit